Radiator controller
Installation and operating instructions

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HR 40

Contents

The HR 40 is an electronic radiator controller with a series of convenient functions:

- You can set your own times and choose from 2 different setpoint temperatures to set up your own heating programme for each day of the week.
- Self-monitoring features offer protection against calcification and frost, help save energy or indicate when the batteries need to be changed.
- The adjustment dial on the operating unit allows simple changing of the room temperature at any time.
- The installation of the HR 40 is simple and does not cause any dirt or water staining.

Scope of delivery

- Check after unpacking!

- ✓ Operating unit including batteries (1)
- ✓ Valve lantern with adjustment dial (2)
- ✓ Bag containing adapter (3), screw and nut (4)

Installation

Only 4 Steps to Completion ...

It only takes a short time to install the HR 40:

- You remove the old thermostat.
- If necessary you install an adapter on the valve.
- You install the valve lantern.
- You attach the operating unit ... **FINISHED!**

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1. Removing the old thermostat

1. Loosen the mounting of the old thermostat.
2. Pull the thermostat off the valve.

2. Mounting the valve adapter (optional)

1. Select the right adapter from the table.
2. If you need an adapter: Open up the adapter and push it onto the valve as far as the stop. Turn it while doing so until you feel it click into place.
3. For the Danfoss RAV adapter: Insert the adapter pin in the valve rocker.
4. If provided on the adapter: Tighten the adapter with the screw.

The Honeywell-Braukmann, MNG, Heimeier, Junkers, Landis & Gyr 'Duogyr' valves do not require an adapter. Adapters are available for Oventrop, Herz, Danfoss and Vaillant valves:

	Adapter manufacturer/type	**Order No.**
	Oventrop **HU 01** (knurled nut M30x1)	073341076
	Herz **HU 02** (knurled nut M28)	073341725
	Danfoss adapter set **EVA 1-Danfoss**	072031201
RAV (grey) RA (white) (enclosed) RAVL (black)		
	Vaillant adapter **EHA 1VAl**	072031082

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3. Installing valve lantern

1. Turn the adjustment dial (3) of the
   valve lantern to the left until the
   nose (1) of the adjustment dial is
   positioned at the stop (2) of the
   housing.

2. Slide the valve lantern onto the valve
   or adapter.
   The flat area on the valve lantern
   head must point upwards.

3. Move the knurled nut forwards and
   tighten it firmly by hand (do not use a
   tool for this!).

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ℹ The valve is now open and, with the central heating switched on, the
  radiator warms through.

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4. Inserting or removing the operating unit

1. Turn the retaining bracket on the operating unit until it points upward.
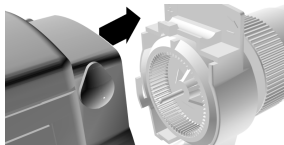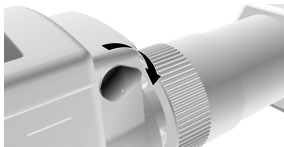

2. Fit the operating unit onto the valve lantern, pushing it on as far as the stop. The flat surface of the valve lantern must be flush with the operating unit.

3. Turn the retaining bracket on the operating unit until the tip points rearward.

To remove the operating unit, reverse this sequence of operations.

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Operating elements and display

(1) Adjustment dial for setting the temperature or time
(2) $\boxed{\text{AUTO MANU}}$ button for changing between Auto and Manu mode
(3) $\boxed{\text{☀❄}}$ button for setting the comfort and economy temperatures
(4) $\boxed{\text{PROG}}$ button for setting the time program
(5) Operating mode: Auto, Manu or Prog
(6) Heating period in hours
(7) Comfort or economy temperature or frost protection

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Automatic functions

Window function

If you open a window so that the temperature at the HR 40 drops sharply for more than 3 minutes, the HR 40 closes the radiator valve in order to save energy. The display then shows the message $OPEn$.

When the temperature rises again – but no later than after 30 minutes – the HR 40 will resume normal operation.

Note: The window function can be ended at any time by pressing the PROG *button or by turning the adjustment dial.*

Valve protection

In order to protect the valve it is opened every Monday at midday.

$CYCL$ is displayed.

Frost protection

If the temperature drops below 4 °C, the HR 40 opens the radiator valve until the temperature rises above 6 °C again. In this way, the HR 40 prevents the radiator from freezing. The ❄ symbol flashes as soon as frost protection is activated.

Note: Frost protection only works with the operating unit attached.

Summer/winter time

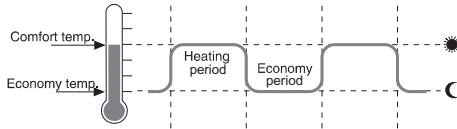The HR 40 will switch to summer or winter time automatically.

Battery change display

When the $bAtt$ display flashes, the HR 40 remains functional. However, you should change the battery as soon as possible.

If $bAtt$ is displayed permanently, the HR 40 is inactive and the radiator valve is opened (frost protection).

Temperatures and control periods

The HR 40 changes between 2 setpoint temperatures...

- Comfort temperature: ☀ (at the factory 21 °C)
- Economy temperature: ☾ (at the factory 16 °C)
  ... and 2 periods:
- Heating period: Set at the factory to start 6.00 a.m., heating to comfort temperature
- Economy period: Set at the factory to start 10.00 p.m., lowering to economy temperature

Heating and economy periods are freely adjustable. The 2nd heating and economy period is optional.

Adjusting the setpoint temperature with the adjustment dial

The adjustment dial on the operating unit can be used to adjust the setpoint temperature at any time. The setting will apply until the next programmed heating or economy period. When the adjustment dial is turned the display shows the preset setpoint temperature.

The adjustment dial does not have a stop. By turning the ring clockwise, the following settings are shown:

Display	Setting
OFF	Radiator valve closed
5...30	Current setpoint temperature (poss. adjustment range)
On	Radiator valve fully open

Adjusting settings

Changing the factory settings

1. Set the comfort and economy temperatures.
2. Set the heating and economy periods for the week program or day program.

Operating hints

- *Remove the operating unit to make settings.*
- *Press the ⸢AUTO/MANU⸣ button to cancel the programming.*
  The HR 40 ignores the last input and returns to Auto or Manu mode.

Setting the comfort and economy temperatures

1. Press the ⸢❄⸣ button.
2. Use the adjustment dial on the operating unit to set the comfort temperature.
3. Press the ⸢❄⸣ button.
4. Use the adjustment dial to set the economy temperature.
5. Press the ⸢❄⸣ button to confirm this change.
   The HR 40 then returns to Auto/Manu mode.

Changing the time program

The HR 40 has two independent time programs:

- The week program uses the same time program for all the days.
- With the day program you can set an individual time program for each weekday.

Note: Please note that two switching points each determine a heating period.

Setting the week program (all days identical):

1. Press the [PROG] button.
   PROG is displayed.

2. Select $1^- 7$ using the adjustment dial.

3. Confirm with the [PROG] button.

4. Use the adjustment dial to set the 1st switching point.

5. Confirm with the [PROG] button.

6. Use the adjustment dial to set the 2nd switching point.

7. Confirm with the [PROG] button.

8. End the procedure with the [AUTO MANU] button.
   – or –
   Set the switching points 3 and 4 for the second heating period.
   The new periods are programmed.

Setting the day program (weekdays individually):

1. Press the [PROG] button.

2. Select the desired weekday with the adjustment dial. The weekdays are numbered from 1 to 7 (Monday to Sunday).

3. Confirm with the [PROG] button.

4. Use the adjustment dial to set the 1st switching point.

5. Confirm with the [PROG] button.

6. Use the adjustment dial to set the 2nd switching point.

7. Confirm with the [PROG] button.

8. Set the switching points 3 and 4 in the same way.

9. End the procedure with the [AUTO/MANU] button.
   – or –
   Select a weekday and repeat Steps 3–8.
   The new periods are programmed.

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Operating example

In the following example, the start of the heating period for Wednesday is set to 7.30 a.m. and the end to 10.30 p.m (22:30).

1. Press the `PROG` button.
2. Turn the adjustment dial until $\exists$ appears in the display.
   Wednesday is now selected.
3. Confirm the selection with the `PROG` button.
4. Set $7:30$ using the adjustment dial.
5. Confirm with the `PROG` button.
6. Set $22:30$ using the adjustment dial.
7. Confirm with the `PROG` button.
8. End the procedure with the `AUTO MANU` button.

Deleting switching points

Note: Please note that two switching points each determine a heating period.

1. Press the `PROG` button.
2. Select all the weekdays: Set $1-7$ using the adjustment dial.
   – or –
   Select an individual day:
   select the desired weekday with the adjustment dial.
3. Confirm the selection with the `PROG` button.
4. Keep pressing the `PROG` button until the required switching time appears.
5. Turn the adjustment dial until $--:--$ appears in the display.

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6. Confirm with the [PROG] button.
   The switching point is deleted.
7. End the procedure with the [AUTO MANU] button.
   – or –
   In order to delete further switching points, repeat Steps 5 and 6.

Other setting options

Resetting the time and date

Note: The date and time are set at the factory. Should the batteries be empty for an extended period (nothing in the display) or if it has taken too long to change the batteries, you will need to reset the date and time.

1. Hold the [PROG] button down for 3 seconds.
2. Set the year using the adjustment dial.
3. Confirm the selection with the [PROG] button.
4. Set the month using the adjustment dial.
5. Confirm with the [PROG] button.
6. Set the day using the adjustment dial.
7. Confirm with the [PROG] button.
8. Set the hour using the adjustment dial.
9. Confirm with the [PROG] button.
10. Set the minute using the adjustment dial.
11. Confirm with the [PROG] button.

Constant temperature without time program (vacation)

1. Switch to manual mode with the $\boxed{\text{AUTO/MANU}}$ button.
   MANU is displayed.
2. Set the temperature using the adjustment dial.

This temperature is retained until you return to Auto mode.

Heating break (summer)

If the central heating system is switched off in summer, you can ensure that the batteries of the HR 40 are not wasted.

1. Switch to manual mode with the $\boxed{\text{AUTO/MANU}}$ button.
2. Turn the adjustment dial clockwise until On is displayed in the display.

The radiator valve now remains open and the HR 40 does not control.

Radiator off

1. Switch to manual mode with the $\boxed{\text{AUTO/MANU}}$ button.
2. Turn the adjustment dial anti-clockwise until OFF is displayed in the display.

The radiator valve is closed.
Note: Frost protection is still ensured.

Disabling the operating elements (child-proofing)

- Press the $\boxed{\text{AUTO/MANU}}$ and $\boxed{\text{AUTO/MANU}}$ buttons simultaneously for 3 seconds.
  "$bLoc$" is displayed.

Undoing the blockage of the operating elements

- Press the $\boxed{\text{AUTO/MANU}}$ and $\boxed{\text{AUTO/MANU}}$ buttons simultaneously again for 3 seconds.

Setting the valve lift

The HR 40 operates with a factory setting with the optimum valve lift that is required for room temperature control.

Activating full-stroke mode

If the entire valve stroke is to be used or if the valve does not close completely, activate the full-stroke mode.

Note: The battery life is reduced through the full-stroke operating mode.

1. Remove the operating unit.
2. Press and hold the 🌡️ button and slide the operating unit onto the valve lantern until the stop is reached and lock.

FULL is displayed.

Activating the default stroke mode

1. Hold the PROG button down.
2. Slide the operating unit onto the valve lantern until the stop is reached and lock.

dEF is displayed.

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Changing batteries

The batteries need changing when $bRTT$ flashes on the display. The following anti-leak batteries can be used for the HR 40:

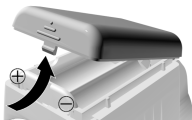| Type	Designation	Battery life
Mignon battery	Alkaline-manganese LR6 AA AM3	2 years
1.5 V accumulator	Alkaline-manganese LR6 AA AM3	¾ year
Lithium battery	LR6 AA AM3	2 years

Note: If changing the batteries takes a long time or the operating unit is not removed, the time will need to be reset.

1. Remove the operating unit.
2. Open the battery compartment on the underside of the operating unit.

3. Remove and dispose of the used batteries.

Battery disposal

Batteries may not be disposed of with household garbage. Dispose of used batteries according to the local statutory requirements by returning them to the corresponding recycling centre.

4. Insert 2 batteries into the battery compartment of the operating unit making sure the polarity is correct.
5. Close the battery compartment and click it in place.
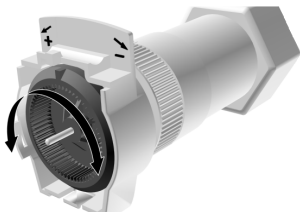6. Attach the operating unit.

Help with problems

Problem/Display	Cause	Remedy
The radiator does not become cold	The valve is not closing fully	Check the installation. If appropriate, activate the full-stroke mode
bAТТ flashes	The battery level is too low	Change the batteries as soon as possible
bAТТ	Batteries are flat (no valve movement possible, no control, valve open)	Change the batteries immediately
E2	The operating unit is not attached	Attach the operating unit correctly
E3	Motor cannot be moved	Check the installation. If appropriate, remove the dirt
E4	–	Please contact your local dealer

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Restoring the factory settings

- Press and hold all 3 buttons while inserting the batteries at the same time.

Adjusting the valve when the batteries are empty

1. Remove the operating unit.
2. Operate the radiator valve by hand using the adjustment dial on the valve lantern:
   + hot/ – cold.

WEEE directive 2002/96
EC Waste Electrical and Electronic Equipment directive

At the end of the product life dispose of the packaging and product in a corresponding recycling centre. Do not dispose of the unit with the usual domestic refuse. Do not burn the product.

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